

INCENDIARY EFFECTS OF ATOMIC BOMB TESTS ON BUILDING SECTIONS AT YUCCA FLAT. Project 8.5 of OPERATION SNAPPER

Abstract

Sections simulating four types of frame building structures were exposed to TUMBLER Shots 3 and 4. The four types were: (1) cubicle room with furnishings, (2) wallcorner, (3) cornice-corner, and (4) roof. Sections 2 and 3 were exposed with and without a fine flash fuel. Douglasfir springwood was charred at least slightly out to about 13,000 feet (radiant exposure 4.0 cal/cm/sup 2/) by Shot 3 and about 10,000 feet (radiant exposure 5.1 cal/cm/sup 2/) by Shot 4. Sustained burning, either as glowing or flaming, took place only in fine fuels. It was concluded that the flash of radiant energy from an atomic explosion will set sustained primary fire in fine fuel, but in general not in more massive fuels such as lumber and plywood. It is recommended that field study of primary fires on building structures be confined to fine fuels to ascertain the conditions under which they become ignited to self-sustaining fire and to such other shapes and materials as may be shown by laboratory experimentation to be a possible fuel for sustained primary fire. (auth)

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